

REMARKS

Claims 1-38 were presented for examination. Claims 1-38 were rejected under 35 U.S.C. 103(a). Applicant hereby amends independent claims 1, 14, and 26 to more clearly recite the claimed invention. Claims 1-38 remain pending in the case.


Rejection of Claims 1-38 Under 35 U.S.C. §103(a)

The Examiner rejected claims 1-38 as obvious over U.S. Patent No. 5,416,917 to Adair et al. ("the '917 patent") in view of U.S. Patent No. 5,590,319 to Cohen et al. ("the '319 patent") and U.S. Patent No. 5,634,053 to Noble et al ("the '053 patent"). Applicant respectfully traverses this rejection to the extent it is maintained over the claims as amended.

The Examiner noted that the '917 patent does not specifically disclose semantic data contexts, and cites the '053 patent for that purpose. When any claim of an application is rejected under 35 U.S.C. §103 based on a U.S. patent to another which substantially shows or describes but does not claim the same patentable invention, the inventor of the subject matter of the rejected claim may submit an appropriate oath or declaration to overcome the patent. When an appropriate oath or declaration is made, the patent cited shall not bar the grant of a patent to the inventor or the confirmation of the patentability of the claims of the patent, unless the date of such patent is more than one year prior to the date on which the inventor's application was filed. 37 C.F.R. §1.131. This oath or declaration is appropriate when the patent cited shows but does not claim the same patentable invention. MPEP §715.

Submitted herewith is a Declaration of Michael Siegel Under 37 C.F.R. §1.131 in which he states that the Applicants were in possession of a method for querying heterogeneous data sources distributed over a network using context interchange to translate between differences in the semantic context of data stored by the databases before August 29, 1995. As factual proof of Applicant's submission, attached to the Declaration is a true and correct copy of "The Context Network Interchange Prototype" ("the Paper").

Further, Michael Siegel states in his Declarations that Messrs. Daruwala, Goh, Hofmeister, and Hussein were named as co-authors of the Paper because they helped Applicants implement their invention. It is clear from Mr. Siegel's characterization of their contribution that



it did not rise to the level of contributions necessary to establish inventorship for the present patent application.

The proffered Declaration is appropriate for "swearing behind" the '053 patent because the '053 patent does not claim the same patentable invention recited by independent claims 1, 14, and 26, as amended. The '053 patent claims a system for searching a plurality of local databases by providing users with access to one virtual database. Unlike the '053 patent, the present application claims a system that employs a decentralized methodology to provide access to a plurality of local databases. In particular, independent claim 1, as amended, recites a system for querying heterogeneous data sources distributed over a network comprising semantic data context information local to and associated with each heterogeneous data source, a request translator associated with each requester receiving a request having an associated semantic data context and comparing this semantic data context and the semantic data context associated with each heterogeneous data source, said request translator translating a request responsive to said conflict determination, and a data translator.

Similarly, independent claim 14 recites a method of querying heterogeneous data sources over a network which comprises the steps of accessing at least one heterogeneous data source to obtain its semantic data context, translating a request having an associated semantic data context into a query having at least a second semantic data context associated with the at least one of the heterogeneous data sources to be queried by comparing the semantic data context associated with the request and the semantic data contexts associated with each of the heterogeneous data sources, and translating received data from the semantic data contexts associated with the heterogeneous data sources into the semantic data context associated with the request. Independent claim 26 recites an article of manufacture having computer-readable program means for performing similar steps. Thus, each system or method recited by the independent claims provides a decentralized mechanism for searching a plurality of local data sources.

Independent claims 1, 14, and 26 are patentably distinct from the claims of the '053 patent because the '053 patent claims providing a central access portal to a plurality of distributed databases. The system claimed by the '053 patent employs a smart data dictionary (SDD) containing data representing schema, data distribution, local site configuration and inter-site relationships of data among the local databases for each of said local databases and a single

global schema that defines a virtual database (see Noble, claim 5). Thus, the system claimed in the '053 patent performs all the necessary conversions and operations to translate a local query to a global query using a predefined set of relationships stored centrally in the SDD (see, for example, Noble, claim 7). Nowhere does Noble claim a system that compares a requestor data context to a database data context to determine whether conflicts exist between those contexts and then using any existing conflicts to build or identify conversion functions used to translate requests into queries. Thus, Applicants respectfully submit that the present application claims an invention that is patentably distinct from the invention claimed by the '053 patent. Since the '053 patent was filed August 29, 1995, Applicants respectfully submit that the '053 patent is not a proper reference against the present application and that, therefore, rejection of those claims under 35 U.S.C. §103 should be withdrawn (see attached Declaration of Michael Siegel Under 37 C.F.R. §1.131).

Further, the '319 patent and the '917 patent, taken alone or in combination do not render obvious independent claims 1, 14, and 26, as amended. The '319 patent describes a query processor which breaks an input query into a plurality of parallel output queries that are directed to individual databases or partitions of those databases in order to take advantage of parallel processing techniques. Although the '319 patent refers to querying heterogeneous databases, it is clear that the '319 patent uses this term to refer to databases that are accessed using different dialects of a single query language or completely different query languages (the '319 patent, Col. 3, Lns. 55-58), that is, the '319 patent refers to databases that are syntactically heterogeneous, not semantically heterogeneous. Once syntactically heterogeneous databases are queried using the apparatus of the '319 patent, a "runner" processes the returned result sets and produces answer sets satisfying the source query. However, the runner performs no translation between the semantic data values returned by the databases and the semantic data values expected by the query. The runner may simply relay output rows more or less unchanged to the client; the runner may merge answer sets returned from different databases; the runner may remove duplicate rows as it merges answer sets; the runner may apply SQL aggregate functions to column values (i.e. sum); the runner may combine rows that satisfy a specified join condition; or the runner may write a result into a designated memory location (the '319 patent, Col. 14, Lns. 7-17).

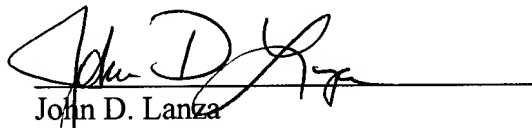
Applicants respectfully submit that not only does the '319 patent fail to disclose a system for querying heterogeneous data sources which includes semantic data context interchange, it also fails to suggest such a system. For example, the sample query beginning at Col. 9, Ln. 26 of the '319 patent and continuing through Col. 10, Lns. 15 of the '319 patent illustrates that the '319 patent conceives only of databases which have homogenous semantic data context. In this example, a query is normalized into a query that includes a restriction that month must equal "DEC". This statement is included throughout the various normalized subqueries (see Col. 9, Ln. 57; Col. 9, Ln. 65; Col. 10, Ln. 7; and Col. 10, Ln. 14). Accordingly, the '319 patent would fail to retrieve sales data from a semantically different database, such as one in which month names are entered in German, which would abbreviate "December" to "DEZ," not "DEC."

Accordingly, Applicants respectfully submit that claims 1-38 define patentably over the prior art of record because the '053 patent is not a proper reference against independent claims 1, 14, and 26 and further because the '319 and '917 patents, taken alone or in combination do not teach or suggest the invention recited by independent claims 1, 14, and 26, as amended. Accordingly, Applicants respectfully submit that the rejection of claims 1-38 as obvious over the '917 patent in view of the '319 patent and the '053 patent should be withdrawn.

CONCLUSION

In view of the arguments made above, Applicants respectfully submit that the claims are in condition for allowance and request that the claim rejections be reconsidered and withdrawn.

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